

Miss HYDE believes that the two chromosomes which must have united to form a bivalent chromosome are alike in size and shape, and that they represent paternal and maternal bodies. If extended observation should show that the differentiation of chromosomes shown in the figures is constant, this form would repay a thorough investigation.—CHARLES J. CHAMBERLAIN.

**Apogamy in *Oenothera*.**—In connection with his cultures of *Oenothera*, GATES<sup>42</sup> has discovered apogamy in *O. lata*, one of the mutants of *O. Lamarckiana*. The anthers of *O. lata* from the Amsterdam cultures are persistently sterile, and this fact, associated in certain other genera with apogamy, suggested the possibility of apogamy in this form. To determine this, the anthers and styles of several flowers (on one individual) were removed and the flowers bagged as usual in making guarded crosses. All of these flowers gave negative results except one, which produced three fairly good seeds. The cytological investigation necessary to substantiate and explain this result is being made.—J. M. C.

**Heath vegetation.**—Some of the ecological similarities of the coastal and barren regions of New York and New Jersey and the heath of Lunenburg are pointed out by LIVINGSTON,<sup>43</sup> who would account for the desert-like aspect of the vegetation of the heath of Lunenburg by the too rapid drainage of the soil and the short growing season. The areas of bog or marsh found scattered through the heath are also physiologically dry, perhaps mainly because of the toxic organic matter present in the soil; hence such areas differ little in aspect from the heath. Both the heath and the moor are dominated by *Calluna vulgaris*, while *Juniperus communis* is conspicuous on the open heath.—GEO. D. FULLER.

**The "knee joint" of *Mougeotia*.**—Observations upon several species of *Mougeotia* indicate to NIEUWLAND<sup>44</sup> that the prevalent interpretation of "knee joints" as a stage in conjugation is incorrect, for the joints are present only in vegetative stages and never in typically conjugating material. Usually the cells of the filament hold together so firmly that the cells break through the middle rather than separate at the ends, but in material with the knee joints, the cells are easily dissociated, and, succeeding the appearance of the joints, the amount of material increases enormously, so that the joints seem to be related to vegetative multiplication.—CHARLES J. CHAMBERLAIN.

**Absorption of water by leaves.**—In a lecture before the Royal Horticultural Society of London,<sup>45</sup> HENSLOW presented reasons derived from the older experiments and some recent ones by himself (which, by the way, are not all well con-

<sup>42</sup> GATES, R. R., Apogamy in *Oenothera*. *Science N. S.* 30:691-694. 1909.

<sup>43</sup> LIVINGSTON, B. E., The heath of Lunenburg. *Plant World* 12:231-240. 1909.

<sup>44</sup> NIEUWLAND, J. A., The "knee joint" of species of *Mougeotia*. *Midland Naturalist* 1:82-84. 1909.

<sup>45</sup> HENSLOW, G., On the absorption of rain and dew by the green parts of plants. *Jour. Roy. Hort. Soc. London* 34:167-178. 1908.